III. REMARKS

1. Claims 1 and 2 are cancelled without prejudice. Claims 3-15 are amended. The specification and drawings are amended. The term "characterized in that" has been removed from claims 3-15 and replaced with "wherein" as is more conventional in U.S. practice. This change does not further limit or narrow the scope of the claims and is not made for reasons related to patentability.

2. FIG. 1 is amended to include the legend "Prior Art" as requested by the Examiner.

3. The specification and abstract are amended to address the objections noted by the Examiner.

4. Claims 3-6 and 8-15 as amended, are not anticipated by Faucher (U.S. Patent No. 5,515,441).

Applicants' invention as recited in claim 3 describes authenticating the mobile station with user-to-user data exchange, where the data is exchanged during call set-up or during a call. This is not disclosed or suggested by Faucher. Faucher, although it deals with communication methods and apparatus, does not indicate that an authentication procedure takes place. Although authentication can take place during the call set up, in Applicants' invention, the authentication may continue when the call is on. However, it is not disclosed or suggested that the authentication can extend to the already set connection, as recited in claim 3.

Applicants' invention aims to improve the authentication procedure in mobile communication networks between two subscribers. According to the invention, the mobile subscriber is authenticated and an encryption key is agreed using user-to-user data exchange. This can be done during call set-up or during a call. It is important to note that the authentication ends up when it is completed, but it may continue even when the call is established. In case the authentication procedure continues when the call is established, there could be e.g. a beep signal to indicate that the authentication procedure has been completed and the line is safe now. More specifically the mobile station B is authenticated by the mobile station A constructing and sending to the mobile station B a message M_1. The mobile station B receives the message M_1, constructs and sends a message M_2 to the mobile station A. The mobile station A receives the message M_2, checks the validity of the information in the message M_2, and if the information is verified valid the mobile station A accepts to share a shared key K with mobile station B. The mobile station A constructs and sends the message M_3 to the mobile station B. The mobile station B receives the message M_3 and verifies the validity of the information, and if the information is valid the mobile station B accepts the sharing of the shared encryption key K with the mobile station A.

Faucher merely relates to communications and particularly to secure communications conducted over insecure channels using public-key methods. However, in Faucher's publication the communication session is secured by computing first and second crypto variables and by computing a specific session crypto variable as a function of the first and second crypto variables. The detailed authentication algorithm of Faucher is different than in the current application. Furthermore, Faucher's

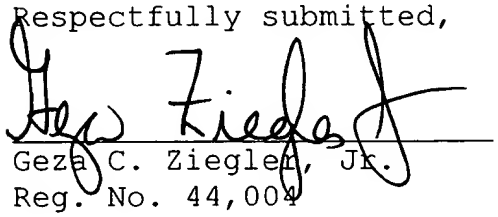
document does not mention at which stage the authentication procedure takes place. Therefore, since Faucher does not disclose or suggest that the authentication procedure may continue if necessary even when the call is already established, claims 3-6 and 8-15 are not anticipated.

With regards to claim 5, Faucher does not disclose or suggest a key agreement protocol as claimed. Therefore, claim 5 cannot be anticipated.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

A check in the amount of $110.00 is enclosed for a one month extension of time and additional claim fees. The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,



23 Feb 2004
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